ADDENDUM
TO
QUALITY ASSURANCE PROJECT PLAN (QAPP)
QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PLAN

REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI / FS)
PHASES 5 AND 6
NAVAL AIR STATION
ALAMEDA, CALIFORNIA
Volume 3

Original: January 1990
Addendum: April 23, 1991

James M. Montgomery, Consulting Engineers, Inc. (JMM) will be performing a site investigation at the Alameda Naval Air Station (NAS) as part of the Navy Clean Contract Task Order (CTO) No. 107. This document is an addendum to the above referenced document which was prepared by Canonie Environmental. This addendum reflects the change of contractor and laboratory as well as modification of procedures.

1. Section 2, pages 8-10. The project team will consist of the following members:

   JMM Navy CLEAN Program Director: Kevin Kelly

   JMM Project Manager: Steven Newton

   JMM Health and Safety Director: Peter Carroll

   JMM Field Team Leader: Scott Weber

   Analytical Laboratory: Environmental Science and Engineering (ESE), Gainesville, Florida.

   See attached Figure 1 for overall project organization.

2. Section 3.3, page 13, paragraph 2, third sentence. Replace "In the laboratory, ten percent of the samples of each matrix will be analyzed as replicates to evaluate laboratory precision," with "In the laboratory, quality control samples will be analyzed at the frequency specified in the referenced method to evaluate laboratory precision and accuracy."

3. Section 3.3, page 14, paragraph 1. An appropriate photoionization detector (PID) instrument will be used for monitoring organic vapors in the field. It will be calibrated according to procedures specified in the project Health and Safety Plan.

4. Section 4.2, page 19, paragraph 3. All ink markings will not be sanded off of PVC casings as specified in the text. Limited benefit will be gained from sanding compared to the time required to perform the task. However, pre-cleaned and packaged PVC casing may be used.

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ENCLOSURE (2)

5. Section 4.4.2, page 26, paragraph 1. JMM will collect and retain one sample each of gravel pack, bentonite, and grout for the project instead of one sample from each bag of material.

6. Section 4.5.4, page 27. Up to five percent powdered bentonite will be added to the grout mixture rather than hydrating the bentonite then mixing. A special grout mixture may be used to accommodate salt water.

7. Section 4.5.6, page 29. Bentonite pellets used for the seal between the filter and grout will be allowed to hydrate for a minimum of 20 to 30 minutes. A test sample will be performed concurrently in a clear container using water from the borehole at each well. This test sample will be observed to assess rate of hydration to assure that a proper seal has been formed before adding grout.

8. Section 5.2, page 35. Pre-cleaned chemistry sample containers will be obtained from a commercial supplier. Container cleaning procedures are described in the ESE QA manual.

9. Section 5.2.4, page 37. Solid sorbent tubes will not be used during this phase of the RI/FS.

10. Section 5.3.1, page 37. Air monitoring, with the exception of activities described in the Health and Safety Plan, will not be performed during this phase.

11. Section 5.3.1.3, page 41. Particulate sampling will not be performed. However, an appropriate instrument will be used to monitor dust levels in the air for health and safety concerns.

12. Section 5.3.2.1, page 48. Laboratory grade isopropyl alcohol will be used instead of methanol for equipment decontamination.

13. Section 5.3.2.1, page 48. The surface soils samples will be collected with a stainless steel sampling device or with brass tubes from 0 to 6 inches. The sampler will be decontaminated between samplings. Loose soil in adequate quantities will be collected in the appropriate size sample jars supplied by the analytical laboratory for specific analyses. In areas where pavement covers the drilling or sampling location, the asphalt or concrete and 2 inches of material from below the pavement will be removed prior to collecting the soil sample.

14. Section 5.3.3.2, page 57, paragraph 2. A sample will not be obtained from each bottle of clean wash solvent. Instead, information on possible solvent contamination of the decontamination solution will be obtained from equipment rinsate samples.

15. Section 5.3.3.2, page 57, paragraph 3. To provide sufficient cleanliness of equipment without generating excess waste wash water, purging and sampling equipment will be steam cleaned for 2 to 3 minutes rather than for a period of time that uses a volume of water equivalent to 10 times the calculated exterior volume of the equipment.

16. Section 5.3.3.3, page 60, paragraph 4. Water sample analyses will be performed on drilling and/or purged water stored in 21,000 gallon tanks to determine disposal and/or treatment methods. Further, water sample analyses from each well installed using the hollow stem auger method will be used to characterize the appropriate drilling and/or purged water contained in 55 gallon barrels.

17. Section 5.3.3.3, page 61, paragraph 1. The protocol for sample collection only applies to volatile organic samples.

18. Section 5.3.3.3, page 61, paragraph 2. Water samples taken for dissolved metal analyses will be filtered in the field. Samples for other inorganic analyses (such as radionuclides and anions) will not be filtered in the field.

19. Section 5.4.3, page 67. Soil gas surveys will not be performed during this phase of work.

20. Section 5.5, page 69, paragraph 2. The alternative decontamination process will use 1) Liquinox detergent instead of Alconox and 2) laboratory grade isopropyl alcohol instead of hexane.

21. Section 5.5, pages 70-71, paragraph 2. We will have one decontamination pad in a central location.

22. Section 6.1.1, page 73. The sample log records will not be attached to the chain-of-custody record and sent to the laboratory with the samples as described in the text. Instead, the records will be retained by JMM for filing in the project files.

23. Section 6.1.2, page 73. Blank chain-of-custody records will be provided by the laboratory. An example of the record is presented as Figure 5-4 in ESE's laboratory QA manual (Appendix B).

24. Section 6.1.3, 6.1.4, 6.1.5, 6.2, pages 74-76. Laboratory procedures for sample handling and analysis are described in ESE's laboratory QA manual (Appendix B).

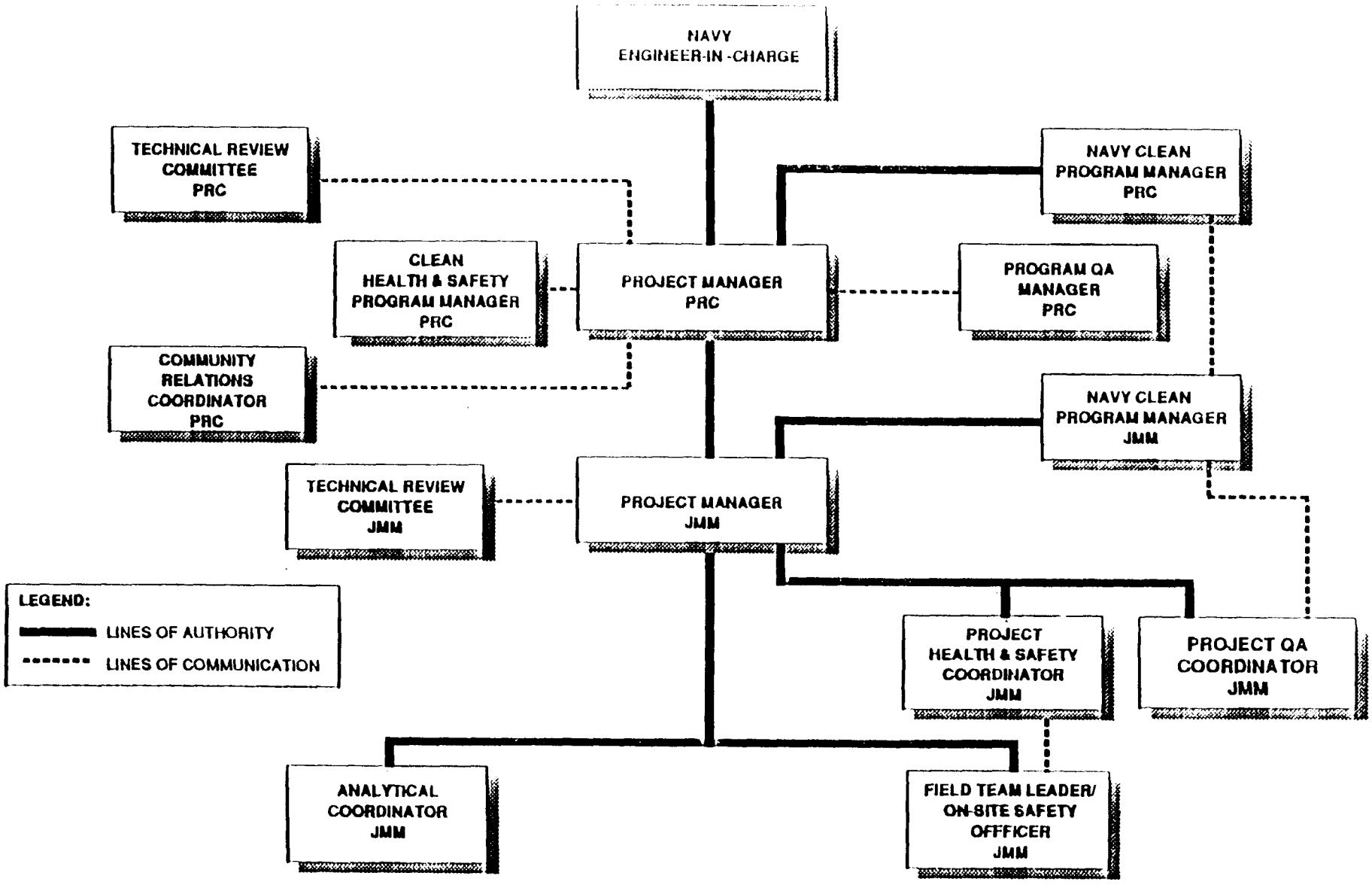
25. Section 8.2, page 88, paragraph 2 . Analytical procedures that will be used for this site investigation are attached to the Addendum to the Sampling Plan. Detection limits are included in Appendix B and in the Contract Laboratory Program (CLP) Statement of Work.

26. Section 9.0, pages 89-91. The laboratory-specific procedures for data reduction, validation, and reporting are described in ESE's laboratory QA manual (Appendix B).

27. Section 10.1, pages 92-94. The frequency of collection of field QC samples for this project are listed on the attached table. The frequency takes into account requirements of both the Canonie QAPjP and NEESA. See attached Figure 2.

28. Section 13.2, page 101, Item 5. Laboratory personnel will review all data packages prior to releasing results. CLP-type data packages will be prepared and submitted by ESE's laboratory for 10 percent of the field samples. Limited data packages, including field and laboratory QC samples, will be submitted for 90 percent of the samples.

29. Appendix B: Laboratory Quality Assurance Manual. The Canonie Laboratory QA Manual has been replaced with Environmental Science and Engineering's QA manual.



REMEDIAL INVESTIGATION/FEASIBILITY STUDY

NAS ALAMEDA

PROJECT ORGANIZATION

FIGURE 1

Figure 2.

Alameda NAS

CTO 107 Qualitiy Control Samples

	NEESA	Canonie QAPjP	Planned Frequency
Trip Blank (VOCs only)			
Soil	1/cooler	0	1/cooler
Water	1/cooler	4% of VOCs	1/cooler
Equipment Rinsate			
Soil	1/day (a)	0	1/two days
Water	1/day (a)	5% (b)	1/two days (d)
Field Blank			
Soil	1/event	0	1
Water	1/event	0	0
Field Duplicate			
Soil	10%	5% (c)	10%
Water	10%	5%	5%
Blind Spike			
Soil	0	0	0%
Water	0	5%	5%

(a) Analysis every other day.

(b) Equipment rinsates include both sample blanks and filtration blanks described in the Canonie QAPjP.

(c) No duplicates required for soil VOC samples.

(d) 1/two days is roughly equivalent to 5% of the samples. However, alternating collection days will ensure rinsates are well distributed throughout the sampling program.

FINAL QUALITY ASSURANCE PROJECT PLAN – QUALITY ASSURANCE/QUALITY CONTROL PLAN REMEDIAL INVESTIGATION/FEASIBILITY STUDY VOLUME 3

DATED 01 JANUARY 1990

IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000782**